A GUIDE TO HOUSEHOLD HAZARDOUS WASTE

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Introduction

Common household products containing hazardous materials may pose a threat to people and the environment, especially when handled and managed improperly. This guide is intended to help answer questions from the public and serve as a guide for safe handling and management of many hazardous products and waste found in and around the home.

When managing household hazardous products, there are three basic principles to keep in mind:

1. Whenever possible, use up a product or donate it to someone who can. In many cases even products that have been stored for a few years can still be safely used according to label directions. In addition, some wastes can be regenerated or recycled, such as used motor oils, solvents, and car batteries
2. Buy the smallest amount of material needed to get the job done. Also, substitute a hazardous product with a non-hazardous alternative.
3. If you can't do one of the two above, then learn how to properly dispose of HHW which will minimize the impact on the environment.

HOME

Drain Openers

Drain openers are used to clear drains of clogs or obstructions. They are liquid or granular in form. Drain openers may contain sodium or potassium hydroxide (lye), sodium hypochlorite, ammonia, hydrochloric acid, sulfuric acid, trichlorobenzene, or trichloroethane. Some ingredients in drain cleaners are considered toxic, poisonous, corrosive, and an eye, skin, and mucous membrane irritant.

Alternative Options

Nonchemical alternatives to drain openers exist. A plunger or a plumber's snake can be used before using a drain opener. One way to minimize the use of drain openers is to prevent clogs in the drain. Such preventive measures include placing a screen over the drain and flushing the pipes weekly with boiling water. If you must use a drain cleaner, buy and use only as much cleaner as is needed. There are commercially available drain openers which use enzymes instead of chemical treatment to open clogged drains.

Recycling/Reuse Options

Drain openers are not recyclable. Try to use the product up or find someone who will. Perhaps a custodial staff or a neighbor could use the product. The empty, rinsed container may be recyclable. For information on recycling the container, read the label or contact the manufacturer or the local health department.

Disposal

If the drain opener cannot be used up or given away, then read and follow the product's label for the manufacturer's instruction on proper disposal. Contact the local health department to see if a HHW collection program is scheduled for your area. Drain opener can be poured slowly down a inside drain, with a large amount of additional water. Read the label to determine if drain openers may be used or disposed of down a drain, if on a septic tank system. The container should be triple rinsed, using the rinse water as you would the product. The rinse water can also be poured down the drain. The container should be recycled if possible. If it cannot be recycled, then it can be disposed of in the trash.

Drain openers should not be poured down outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW. Drain openers can contain very alkaline (lye) or very acidic components. Mixing strong alkaline and strong acids together can produce a violent reaction. Therefore, drain openers should not be mixed with each other, with other products, or with an alternative such as baking soda.

Abrasive Cleaners

Abrasive or powder cleaners may contain calcium carbonate, sodium carbonate, sodium hypochlorite, sodium hydroxide, chlorine compounds, ammonia, trisodium phosphate, or ethanol. Some ingredients in abrasive cleaners are considered corrosive, toxic, poisonous, and an eye and skin irritant.

Alternative Options

Alternatives to abrasive cleaners exist, however, if you must use an abrasive cleaner, buy and use only as much as is necessary.

Recycling/Reuse Option

Abrasive cleaners are not recyclable. Try to reuse the product or find someone else who will use it. Perhaps a custodial staff or a neighbor could use the product. The empty, rinsed containers may be recyclable. Read the label or contact your local recycling center for more information about recycling the container.

Disposal

If the abrasive cleaner cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Abrasive cleaners may be disposed of in one of two ways. Under state law, if generated by a household, a solidified abrasive cleaners can be legally disposed of in a landfill. Abrasive cleaners can also be poured slowly down an inside drain, with a large amount of additional water. Rinse the empty container, using the rinse water as you would the product. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Aerosol Cans

Aerosol spray cans are used to dispense such personal care products as deodorants or hair sprays in addition to many other products addressed separately in this manual. The personal care product itself may contain hazardous active ingredients. The propellants may be hazardous as well. Some propellant ingredients in aerosol personal care products include methylene chloride, nitrous oxide, o-phenyl phenol, propane, trichloroethane, or trichloroethylene. Some of the propellant components are considered toxic, flammable, poisonous, and an eye and skin irritant. In addition, older products may have propellants that are ozone-depleting substances. There is also the possibility that aerosol cans may burst, because the contents are pressurized.

Alternative Options

Alternatives to using aerosol products include using products that are in a pump-spray or some other non-aerosol means of dispensing the product (e.g., roll-on or stick deodorants).
If you must purchase an aerosol product:

- buy only as much as needed;
- purchase aerosols that use carbon dioxide as a propellant.

Recycling/Reuse Options

The empty steel container is recyclable; however, not every community accepts aerosol containers in their recycling program. Contact the local health department for information on recycling the container.

Disposal

If the aerosol can cannot be recycled, then read and follow the product's label for the manufacturer's instructions on proper disposal. Under state law, if generated by household use, aerosol cans may be legally disposed of in a landfill.

Bleach

Bleach is used as a whitening agent, cleaner and disinfectant. Bleach may contain sodium hypochlorite or hydrogen peroxide. Some components of bleach are considered toxic, corrosive, and an irritant to the eyes, skin, and mucous membranes.

Alternative Options

Two non-chlorine bleach alternatives exist that are commercially available. These include oxygen-based and hydrogen peroxide-based bleaches. If you must use bleach, buy and use only as much as needed.

Recycling/Reuse Options

Bleach is not recyclable. Try to use the product or find someone who will. Perhaps a neighbor or custodial staff could use the product. The rinsed, empty container may be recyclable. For information about recycling the container, read the label or contact your local health department or the manufacturer.

Disposal

If the bleach cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Bleach can be poured slowly down the drain with a large amount of additional water. The empty container should be triple rinsed and recycled, if possible. The rinse water can be used as you would the bleach or poured down the drain. If the container cannot be recycled, then it can be disposed of in a landfill.

Bleach should not be poured down outside drains, into a storm sewer, or on the ground. Chlorine bleach should not be mixed with products containing ammonia. When mixed, the two products produce a dangerous gas.

Oven Cleaners

Oven cleaners are usually a liquid contained in an aerosol can or in a bottle with a spray pump. Oven cleaners may contain ingredients such as potassium or sodium hydroxide (lye), glycol ethers, methylene chloride, monoethanolamine, petroleum distillates, or ammonia. Some ingredients in oven cleaners are considered flammable, toxic, poisonous, corrosive, and an eye, skin, and mucous membrane irritant.

Alternative Options

Alternatives to oven cleaners can be made at home. One way to reduce the use of oven cleaners is to prevent the oven from becoming messy. Tips for keeping the oven clean include: placing aluminum foil on the bottom of the oven, away from the heating element; and wiping the oven after each use to prevent the spills from charring. Other alternatives to oven cleaners include using the self-cleaning oven feature, when available; pumice stick; or steel wool. If you must use an oven cleaner, buy and use only as much as needed. In addition, try to use a cleaner that is noncorrosive (i.e., does not contain lye).

Recycling/Reuse Options

Oven cleaner is not recyclable. Try to use the product up or find someone who will. Perhaps a neighbor could use the product. The empty aerosol can is recyclable; however, not every community accepts this type of can in their recycling program. Contact the local health department for information on recycling empty aerosol cans.

Disposal

If the oven cleaner cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact the local recycling coordinator to see if a HHW collection program is scheduled for your area. Non-aerosol oven cleaners that contain lye (sodium hydroxide) may be poured down an inside drain with a large amount of water, if your wastewater treatment plant permits it. Contact your local wastewater treatment plant for more information. Solidified oven cleaner or oven cleaner in aerosol cans may be disposed of in a landfill. To solidify the oven cleaner, mix the oven cleaner with enough absorbent material such as cat-box filler to absorb all free liquids. Place the solidified oven cleaner in a bag or wrap in newspaper before disposing in a landfill. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Non-aerosol oven cleaners should not be poured down outside drains, into a storm sewer, on the ground, or down an inside drain if connected to a septic tank system. This can cause groundwater contamination and/or operational problems with the septic system or POTW.

Caution

Oven cleaners may contain very alkaline (lye) or very acidic components. Mixing strong alkalines and strong acids together can produce a violent reaction. Therefore, oven cleaners should not be mixed with each other, with other products, or with an alternative such as baking soda.

Mold and Mildew Stain Removers

Mold and mildew stain removers work by either de-colorizing mildew stains or by killing or removing the mildew. These cleaners may contain sodium carbonate, sodium hypochlorite and other corrosive materials. Some ingredients in mold and mildew stain removers are considered toxic, corrosive, poisonous, and an eye and skin irritant.

Alternative Options

Alternatives to mold and mildew stain removers which can be made at home exist, but if you must use a mold and mildew stain remover, buy and use only as much needed. In order to minimize the use of mold and mildew stain removers, it is necessary to reduce the source of moisture which allows the mold and mildew to flourish. Ways to decrease the moisture in an area include:

- opening a window;
- using an exhaust or portable fan; and
- using a dehumidifier.

Recycling/Reuse Options

Mold and mildew stain removers are not recyclable. Try to use the product up or find someone who will. Perhaps a custodial staff or a neighbor could use the product. The empty, rinsed container may be recyclable.

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Disposal

If the mold and mildew stain remover cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Under state law, if generated by household use, mold and mildew stain removers can be legally disposed of in two ways. Mold and mildew stain removers may either be poured slowly down an inside drain, with a large amount of additional water, or the solidified product may be disposed of in a landfill. To solidify a mold and mildew stain remover, mix it with enough absorbent material (e.g., cat-box filler) to absorb all free liquids. Then place the solidified material in the landfill. Triple rinse the empty container. Use the rinse water as you would the product or pour it down the drain. The rinsed, empty container should

be recycled, if possible. If it cannot be recycled, then the empty container can be disposed in a landfill.

Mold and mildew stain removers should not be poured down outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Toilet Bowl Cleaners

Toilet bowl cleaners are used to clean or disinfect the toilet. They can be in the form of either liquid, powder, crystals, foam or tablets. The hazardous ingredients in toilet cleaners include citric acid, sodium hypochlorite, hydrochloric acid, phosphoric acid, oxalic acid, quaternary ammonium compounds, diethel ethyl benzyl chloride, hydrogen chloride, sulfamic acid, lactic acid, paradichlorobenzene, or calcium hypochlorite. Some components of toilet bowl cleaners are considered toxic, poisonous, corrosive, and an eye, skin, and mucous membrane irritant.

Alternative Options

Alternatives to toilet bowl cleaners which can be made at home exist but if you must use a toilet bowl cleaner, buy and use only as much as needed.

Recycling/Reuse Options

Toilet bowl cleaners are not recyclable. Try to use the product up or find someone who will. Perhaps a custodial staff or a neighbor could use the cleaner. The empty, rinsed container may be recyclable. For more information on recycling the container, read the label or contact the manufacturer or the local health department.

Disposal

If the toilet bowl cleaner cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Under state law, toilet bowl cleaners can be legally disposed of in two ways. Toilet bowl cleaners generated from household use may either be poured slowly down an inside drain, with a large amount of additional water, or the solidified product may be disposed of in a landfill. To solidify a toilet bowl cleaner, mix it with enough absorbent material (e.g., cat-box filler) to absorb all free liquids. Then place the solidified material in the landfill. Triple rinse the empty container. Use the rinse water as you would the product or pour it down the drain. The empty container should then be recycled, if possible. If it cannot be recycled, then the empty container can be disposed in a landfill.

Toilet bowl cleaners should not be mixed with chlorine bleach, ammonia, or with other cleaners. Toilet bowl cleaners should not be poured down outside drains, into

a storm sewer, or on the ground. This can cause operational problems with the septic system or POTW.

Tub and Tile Cleaner

Many tub and tile cleaners may contain octyl, decyl-, dactyl-, or didecylammonium chloride, phosphoric acid, or sodium hypochlorite. Some components of tub and tile cleaners are considered corrosive, toxic, poisonous, and an eye, skin, and mucous membrane irritant.

Alternative Options.

Alternatives to tub and tile cleaners which can be made at home exist, but if you must use a tub and tile cleaner, buy and use only as much as needed.

Recycling/Reuse Options

Tub and tile cleaners are not recyclable. Try to use the product or find someone who will. Perhaps a custodial staff or a neighbor could use the product. The rinsed, empty container may be recyclable. For more information on recycling the container, read the label or contact the manufacturer or the local health department.

Disposal

If the tub and tile cleaner cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Under state law, tub and tile cleaners can be legally disposed of in two ways. Tub and tile cleaners can be poured slowly down an inside drain with a large amount of additional water. Or, if generated from household use, solidified tub and tile cleaners (as well as those in aerosol cans) can be placed in a landfill. To solidify tub and tile cleaner, mix it with enough absorbent material, such as cat-box filler or sawdust, to absorb all free liquids. Then place the solidified material in the landfill. Triple rinse the empty container, using the rinse water as you would the product or pour it down the drain. The rinsed, empty container should then be recycled, if possible. If it cannot be recycled, then the empty container can be disposed in a landfill.

Tub and tile cleaners should not be poured down outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Air Fresheners

Air fresheners are used to alter the air smell in the home. Air fresheners come in a variety of forms: aerosols, non-aerosol and disinfectant sprays, and continuous action products (gels, paper boards,

liquids, ceramics, electrical and controlled-release products). Most air fresheners do not remove the odor; instead, they coat the nasal passages with an oil film which desensitizes them, or they simply mask the unpleasant odor with another odor. Although the primary ingredient in most of these products is fragrance, air fresheners also may contain formaldehyde, isobutane, propane and methylene chloride, o-phenyl phenol, or p-dichlorobenzene. Some components of air fresheners are toxic, flammable, poisonous, and an eye or skin irritant.

Alternative Options

Alternatives to using air fresheners exist. These include:

- opening windows;
- using an exhaust fan to dispel the odor;
- using baking soda or an open dish of vinegar or lemon juice to absorb odors;
- using potpourri and naturally fragrant oils to mask undesirable odors;
- using charcoal or zeolite, a mineral that absorbs odors (zeolite recharges when placed in the sun for 24 hours).

Recycling/Reuse Options

Air fresheners are not recyclable. The empty aerosol canister is recyclable; however, not every community accepts this type of canister in their recycling program. Contact the local health department for information on recycling aerosol cans.

Disposal

If the air freshener cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Under state law, if generated from household use, solidified air fresheners can be legally disposed of in a landfill. The empty, aerosol can should be recycled, if possible. If it cannot be recycled, then the container can be disposed of in a landfill.

Fingernail Polish and Polish Remover

Fingernail polish is used to color the surface of nails. Polish remover is used to remove polish from the surface of nails. These products may contain acetone, benzene, ethyl acetate, titanium dioxide, butyl acetate, polyurethane, propylene glycol, formaldehyde resin, phenol, toluene, tricresylphosphate, or xylene. Some components of fingernail polish and remover are considered flammable, toxic, poisonous, and an irritant to skin and eyes.

Alternative Options

Toluene-free nail polishes are available, as well as nail polish and remover that do not contain formaldehyde.

Recycling/Reuse Options

Fingernail polish and remover are not recyclable. The rinsed nail polish remover containers may be recyclable. For more information on recycling the container, read the product's label or contact your manufacturer or your local health department.

Disposal

If the nail polish and remover cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact the local health department to see if an HHW collection program is scheduled for your area. Under state law, if generated by household use, solidified fingernail polish and remover can be legally disposed of in a landfill. To solidify nail polish, remove the nail polish cap and let the polish evaporate. For nail polish remover, place it in a well ventilated area without the cap, and allow it to evaporate. The containers can then be placed in the landfill.

Fingernail polish and remover should not be poured down drains (inside and outside), into a storm sewer, or on the ground.

Medical Waste and Medicines

Medical waste includes such things as syringes, glass, bandages or bags contaminated with blood, and colostomy bags. Expired or unwanted medicine can be toxic.

Alternative Options

No alternative options are available.

Recycling/Reuse Options

Medicine and medical waste are not recyclable. Do not give away old medicine.

Disposal

Read and follow the prescription label for the manufacturer's instructions on proper disposal. Under state law, medicine can be legally disposed in one of two ways. If connected to a city sewer system, small amounts of medicine (except for cancer treatment drugs and lice shampoos) may be poured down an inside drain with a large amount of additional water. Contact the local wastewater treatment plant for information. In addition, under state law, if generated by household use, solidified medicine can be legally disposed of in a landfill. Place the solidified medicine in a bag or wrap in newspaper

before disposing in a landfill. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill. Do not pour old medicine down a drain that is connected to a septic tank system. Those on a septic system should put the old medicine in a heavy plastic bag, tape the bag closed, and place it in a landfill. Medical waste may be placed in the landfill. Before disposing, wrap the waste in newspaper, place
it in a heavy plastic bag, and tape closed.

Old medicine should not be poured down outside drains, down septic tank systems, into storm sewers, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Wood Polishes and Waxes

Wood polishes and waxes are used to protect and polish wood finishes. Ingredients in wood polishes and waxes include ammonia, aromatic solvents (e.g., benzene, toluene), petroleum distillates (also called naphtha), mineral spirits, silicones, trichloroethane, or turpentine. Some components of wood polishes and waxes are flammable, toxic, poisonous, and an eye and skin irritant.

Alternative Options

There are alternatives to wood polish and waxes. These include: using polishes made with mineral oil and citrus oil; and for unvarnished wood, using vegetable or mineral oil. When choosing a product, read the label and consider purchasing a product that lists "**Caution"** over **"Warning"**, over **"Danger/Poison". Danger/Poison** denotes a more hazardous property than **Caution.**

Recycling/Reuse Options

Wood polishes and waxes are not recyclable. The empty steel can is recyclable; however, not ever community accepts this type of can in their recycling program. Contact the local health department for information on recycling the container.

Disposal

If the wood polish and wax cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact your local health department to see if a HHW collection program is scheduled for your area. Under state law, if generated by household use, solidified wood polish and wax can be legally disposed of in a landfill. To solidify wood polish or wax, mix it with enough absorbent material such as sawdust to absorb all free liquids or open the container in a well ventilated area and allow the contents to solidify. The solidified material may be disposed of in a landfill. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

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Wood polishes and waxes should not be poured down drains (inside or outside), into a storm sewer, or on the ground or down an inside drain if connected to a septic tank system. This can cause groundwater contamination and/or operational problems with the septic system or POTW.

Disinfectants

Disinfectants are products that kill microorganisms. They contain ingredients such as ammonia, ethanol, formaldehyde, hydrocarbon solvents, lye (e.g., sodium or potassium hydroxide), monethanolamine, phenols, pine oil, quaternary ammonium chlorides, sodium borates, sodium hypochlorite, or sodium hypochlorite triethanolamine. Some ingredients in disinfectants are considered toxic, poisonous, flammable, corrosive, and a skin, eye, and mucous membrane irritant.

Alternative Options

Alternative disinfectants which can be made at home. However, in order to reduce packaging and waste, purchase concentrated products and products in refillable containers, if possible. I f you must use disinfectants, buy and use only as much as needed.

Recycling/Reuse Options

Disinfectants are not recyclable. Try to use the product or find someone who will. Perhaps a custodial staff or a neighbor could use the product. The empty, rinsed container (including aerosol cans) may be recyclable; however, not all communities recycle aerosol cans. For more information about recycling the container, read the label or contact the manufacturer or the local health department.

Disposal

If the disinfectant cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Disinfectants may be disposed of in one of two ways. Disinfectants may be poured slowly down an inside drain with a large amount of additional water. Or, solidified disinfectant or disinfectants in aerosol cans may be disposed of in a landfill. Rinse the empty container with water, using the rinse water as you would the product, or pour it down the drain with additional water. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Disinfectants should not be poured down outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW. Read the label to determine if the disinfectant can be used or disposed of down a septic system.

Mothballs

Mothballs protect fabric from moths by emitting vapors which repel moths, kill adult and larval moths, or inhibit egg-laying behavior. Mothballs may contain paradichlorobenzene, naphthalene, or camphor. Some ingredients of mothballs are considered toxic, poisonous, flammable, and an eye and skin irritant.

Alternative Options

Alternatives to using mothballs include:

- cleaning clothes before storing them in tightly sealed containers;
- drying clothes in the dryer to kill the moth eggs;
- periodically shaking or brushing stored clothes to get rid of any larvae or cocoons;
- placing cedar chips with the clothes in a sealed container.

Another approach to reducing the use of mothballs is to avoid creating an environment which encourages moths. Moths eat fabric in search of lint, salt, dead insects, and human food. Keep fabric items clean to discourage the presence of moths. To prevent moths by creating an inhospitable environment for moths, vacuum the house regularly, especially rugs, drapes, upholstered furniture, closets, vents, cracks, and baseboard moldings. If you do use mothballs, store mothballs in double plastic bags to maintain their effectiveness. A mothball is no longer effective if it is very small and no longer smells.

Recycling/Reuse Options

Mothballs are not recyclable. Try to give them away to someone who can use them.

Disposal

If the mothballs cannot be used or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact your local health department to see if a HHW collection program is scheduled for your area. Under state law, if generated by household use, mothballs can be legally disposed of in a landfill. To dispose, wrap the mothball in a plastic bag and place in the trash.

Fumes from mothballs are toxic as well as flammable. Store mothballs in a tightly-sealed container away from heat sources.

Metal Polish

Metal polishes are designed to remove soils, surface imperfections, and corrosion from metal surfaces. They come in a number of forms: aerosol sprays, liquids, pastes, and solids. Metal polishes may contain ammonia, denatured alcohol, naphtha, oxalic acid, petroleum distillates, phenolic derivatives, phosphoric acid, silica, sulfuric acid, thiourea, and tripolyphosphate. Ingredients in metal polishes are considered toxic, corrosive, flammable, poisonous, reactive with oxidizers, and an eye, skin, and mucous membrane irritant.

Alternative Options

Alternatives to commercial metal polishes that can be made at home exist, but if you must use a metal polish, buy and use only as much as needed. When choosing a product, read the label and consider purchasing a product that lists **"Caution"** over "**Warning"**, over **"Danger/Poison". Danger/Poison** denotes a more hazardous product than **Caution.**

Recycling/Reuse Options

Metal polish is not recyclable. Try to use the product up or find someone who will. Perhaps a custodial staff or a neighbor could use the product. The empty can may be recyclable. For more information on recycling the container, read the label or contact the local health department or manufacturer.

Disposal

If the metal polish cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact your local health department to see if a HHW collection program is scheduled for your area. Under state law, metal polish, if generated from household use, can be legally disposed of in a landfill. To solidify the metal polish, mix the metal polish with enough absorbent material, such as cat-box filler, to absorb all free liquids or open the container in a well ventilated area and allow the contents to solidify. The solidified material may be disposed of in a landfill. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Household Batteries: Alkaline, Non-Alkaline

Household batteries are used as a power source for a number of household items. This category includes AAA, AA, C and D dry cell batteries, six and nine volt batteries, and button batteries. An estimated 3.5 billion batteries are purchased annually. Of this, only 10 percent are rechargeable. Batteries may contain metals such as mercury, nickel, zinc, silver, lithium, cadmium, and manganese dioxide. The most common type of battery is an alkaline. Alkaline and zinc-carbon batteries manufactured before 1992 contain mercury. Button batteries (used in cameras, watches, pagers, and small hearing aids) may contain mercury, silver, or lithium. Rechargeable batteries include sealed

lead-acid and nickel cadmium batteries. Nickel-cadmium batteries, the most common type of rechargeable batteries, are used in kitchen and portable appliances, and some medical and communications equipment. Some ingredients in batteries are considered corrosive, poisonous, flammable, an irritant, or toxic.

Alternative Options

When possible, use rechargeable batteries, batteries that contain low levels of heavy metals, or batteries that do not contain mercury. To extend the life of a battery, remove the battery from the appliance when not in use. Also consider using solar powered batteries and AC adaptors.

Recycling/Reuse Options

Some batteries are recyclable. Nickel-cadmium batteries can be processed for the nickel and the cadmium. To find the nickel-cadmium recycler nearest you, call 1-800-BATTERY. Cellular retail stores also accept nickel-cadmium batteries for recycling. Mercury or silver button cell batteries can be processed for mercury and silver. Ferrous metals (containing iron) are also recoverable during the recycling process. The infrastructure to recycle alkaline batteries and zinc-carbon batteries may not be available locally at this time; however, these batteries are also recyclable. Contact your local health department to find out if there is a collection site for alkaline and zinc-carbon batteries near you.

Disposal

If the battery cannot be recycled, then read and follow the label for the manufacturer's instructions on proper disposal. Under state law, household batteries can be legally disposed of in a landfill. Batteries should be placed in a plastic bag and sealed before disposal.

Batteries should not be placed in the trash, if you live in an area where municipal solid waste is incinerated. For others, contact your local solid waste department or hauler for more information. To prevent batteries from leaking, rupturing, or overheating which may result in a chemical burn, do not recharge the non-rechargeable batteries or recharge batteries in the wrong charger, do not mix alkaline or carbon-zinc batteries or use old and new batteries together in the same appliance, and do not place batteries in the wrong direction.

Smoke Detectors

Smoke detectors are designed to alert homeowners of the presence of smoke in the house. Battery-operated (ionization type) smoke detectors contain a small amount of radioactive material, americium-241.

Alternative Options

An alternative to ionization-type smoke detectors is the photoelectric type detector.

Recycling/Reuse Options

Smoke detectors are not recyclable. If the smoke detector is still functional, try to give the smoke detector to a neighbor or someone that can use it

Disposal

If the smoke detector cannot be given away, then read and follow the product's label for manufacturer's instructions on proper disposal. Some manufacturers and retailers accept broken detectors for disposal. The address of the manufacturer is usually located on the base of the detector. Under state law, if generated by household use, smoke detectors can be legally disposed of in a landfill.

Insecticides - Flea Powders and Sprays

Flea powders and sprays are used to kill or control household fleas. The ingredients found in some flea powders, collars, and sprays may include carbamates, carbaryl, lindane, limonene, pyrethrins, chlorpyrifos, and organo-phosphates. Many ingredients in flea powders and sprays are considered toxic, poisonous, or a skin or eye irritant

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Alternative Options

To minimize the quantity of flea powder or spray that must be managed or the hazards associated with its use:

- buy and use only the quantity needed;
- purchase short-lived products (e.g. pyrethrin-based sprays) ; and
- use up all of the flea powder or spray.

Fleas may be impossible to control without the use of flea powders or sprays; however, alternatives for controlling flea populations exist. These include the following:

- vacuum or steam clean the carpet often to remove eggs and larvae (changing the bag after each use);
- use a flea comb to remove the fleas off pets and then discard;
- wash the pet's bedding frequently;
- wash pets with insecticidal soap;
- ask your veterinarian about oral flea controls or once-a-month sprays for your pet;
- apply a dehydrating agent such as silica gel to a pet's bedding and carpet to kill the

flea larvae and eggs; and

- use insect growth regulators (such as lufenuron or methoprene) to prevent the development of adult fleas.

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Recycling/Reuse Options

If you do not use all of the insecticide, you can offer it to a kennel, humane society, neighbor, or civic or charitable organizations that might have a use for it. Do not give away or use insecticides that are labeled **"Restricted Use"** or that have been banned. Only state-licensed applicators may apply **"Restricted Use**" insecticides. As this labeling requirement went into effect in 1983, commercial pesticides purchased before then may not have the warning **"Restricted Us**e". Contact the local county extension office or the EPA sponsored National Pesticide Telecommunications Network at 1-800-858-PEST for information on pesticides (including if the insecticide has been banned or is a restricted use insecticide). Flea powders and sprays are not recyclable.

Disposal

If the flea powder and spray cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal.

Empty flea powder or spray container

If the container is empty, then triple rinse the container (using the rinse water as you would the product). The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Solidified flea products

Contact the local health department to see if a HHW collection program is planned for your area. Under state law, if generated by household use, solidified flea powders or sprays can be legally disposed of in a landfill. Wrap the container in several layers of newspaper, and place in a landfill. Before attempting to dispose of flea powder or spray in this manner, contact the local landfill to find out if they will accept the pesticide.

Liquid flea products

Contact the local health department to see if a HHW collection program is planned for your area. Under state law, solidified flea powders or those in aerosol cans can be legally disposed of in a landfill. To solidify the liquid flea products, mix the flea product with enough absorbent material such as sawdust to absorb all free liquids. Place the solidified flea product in a bag or wrap in newspaper before disposing in a landfill. The empty container should be triple rinsed (using the rinse water as you would the product) and recycled,

Flea products should not be poured down septic tanks, drains (inside or outside), into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Storage Tips:

To safely store insecticide, keep it in the original container with the label intact and refer to the product's label for additional information. Store the insecticide in an area inaccessible to children or pets.

Indoor Insecticides

Insecticides are used indoors to control or kill household insects. Some of the ingredients in insecticides include organo-phosphates, carbamates, chlorpyrifos, petroleum distillates, and pyrethrins. Some older insecticides may contain compounds that are now banned or restricted for household use. Many insecticides contain ingredients that are considered toxic, flammable, an irritant, poisonous, or are slow to biodegrade. To determine if you are dealing with a pesticide, read the container label or contact the manufacturer. Pesticides are divided into four categories. Category I pesticides, which should only be used by professionals with special training, are highly toxic and have the signal word **"Danger"** on the label. These products may also contain the word **"Poison"** on the label or a skull and cross bones. Homeowners should not purchase pesticides in the **"Danger"** category unless they have special training. Category II pesticides are moderately toxic and have the signal word **"Warning"** on the label. Category III pesticides are slightly toxic and have the signal word **"Caution"** on the label. Category IV pesticides are relatively non-toxic and have the signal word **"Caution"** on the label.

Alternative Options

There are alternatives to using insecticides. One way is to reduce insect populations by:

- working to prevent insects from entering your home by caulking or covering entry ways such as holes, cracks, or gaps around pipes and electric lines or screening windows and vents;
- keeping food covered and not leaving any food, including pet food, out at night;
- preventing dampness under sinks and around toilets;
- removing hiding places for insects such as piles of old newspapers and garbage bags; and
- cleaning up ants and their trail with soapy water, and sealing the opening where they are entering the house. If insects appear, consider using insect growth regulators (such as fire ant or roach baits) or traps before using insecticides. If you must purchase and use insecticides: purchase and use only as much as needed;
- buy products that are designed specifically for the pest;
- buy the least toxic product possible;
- make sure it is labeled for the area where it is going to be used;

- follow label directions closely (as they are your best source for safe use directions);
- make spot applications rather than broad applications;
- avoid storing products for long periods of time (since they may become less effective); and
- use up all of the product (if you can not use the products up, try offering it to civic or charitable organizations that might have a use for it).

By following these suggestions, you can minimize the amount of products that must be managed or the hazards associated with its use.

Recycling/Reuse Options

If you do not use all of the insecticide, you can offer it to civic or charitable organizations that might have a use for it. Do not give away or use insecticides that are labeled **"Restricted Use"** or that have been banned. Only state-licensed applicators may apply **"Restricted Use"** insecticides. Insecticides are not recyclable. However, the pesticide containers may be recycled. Contact the local health department to determine if your community has a program to recycle pesticide containers. To recycle, triple rinse the container using the rinse water as you would the pesticide.

Disposal

If the insecticide cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal.

Empty insecticide container

If the container is empty, then triple rinse the container (using the rinse water as you would the product). The empty container should be recycled, if possible. If it can not be recycled, then the empty container can be disposed of in a landfill.

Solidified insecticides

Contact the local health department to see if a HHW collection program is planned for your area. Under state law, if generated by household use, solidified insecticides and those in aerosol containers may be legally disposed of in a landfill. Wrap the container in several layers of newspaper, and place in the trash.

Liquid insecticides

Contact the local health department to see if a HHW collection program is planned for your area.

If generated by household use, solidified liquid insecticide can be legally disposed of in a landfill. To solidify the liquid insecticide, mix the insecticide with enough absorbent material such as shredded newspaper or sawdust to absorb all free liquids. Place the solidified insecticides in a bag or wrap in newspaper before disposing in a landfill. The empty container should be triple rinsed (using the rinse water as you would the product) and recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Insecticides should not be poured down septic tanks, drains (inside or outside), or into a storm sewer. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Storage Tips

To safely store an insecticide, keep it in the original container with the label intact and refer to the product's label for additional information. Store the insecticide in an area inaccessible to children or pets.

Mercury-Containing Devices

Mercury is a naturally occurring metallic element and a potent neurotoxin. It is used extensively in many products and processes due to properties that enable it to conduct electricity, measure temperature and pressure, act as a pesticide and fungicide, and alloy with other metals. Many of the products used in our everyday lives are made with mercury or contain a mercury component, including thermometers, thermostats, dental fillings, and fluorescent lights. Within the U.S., manufacturers use 500-600 metric tons of mercury annually as part of their manufacturing processes or to create products that use mercury. Mercury is also released as an incidental by-product of numerous processes. As a natural element, mercury is released when certain raw materials are heated. At very small quantities, mercury is capable of impairing neurological development in fetuses and young children and damaging the central nervous system of adults. It does not degrade and is not destroyed by combustion. In addition, it persists in the environment, and can bioaccumulate in the aquatic food chain.

Alternative Options

Coal fired power plants are a major source of mercury pollution. Therefore, conserving electric power whenever possible means less mercury is emitted into the environment from power plants. Additionally, there are alternatives to mercury thermometers, thermostats, and batteries. These include digital, ear scan, or red bulb (alcohol) thermometers. Electronic thermostats and rechargeable or "no mercury added" batteries are also available. You can also purchase solar

products, such as calculators, that do not require batteries. Ask your dentist about mercury-free alternatives to mercury-containing dental amalgam.

Recycling/Reuse Options

Mercury is recyclable. Check with the local health department or HHW recycling center, dentist, or hospital to see if they accept mercury thermometers for recycling. Some hazardous waste disposal companies will accept mercury for recycling. Hazardous waste disposal companies listed in the yellow pages under "Environmental and Ecological Services" may be able to accept and recycle a mercury-containing device. There are no mercury recyclers located in Utah.

How to Clean Up a Mercury Spill

Do not vacuum up mercury, as it will become airborne and contaminate the vacuum. Rather, push the mercury together using a thin, sturdy piece of paper or flat board, then funnel the mercury into a plastic, sealable container. Place all materials that touched the mercury in a separate container or double plastic bag, seal it, label them both, and follow the above directions for recycling. Thoroughly clean the contacted area with an all purpose cleaner appropriate for the surface.

Disposal

If the mercury-containing device cannot be given away or recycled, then the device, under state law, if generated by household use can be disposed of in a permitted, landfill. To dispose of the device, wrap it in newspaper, place it in a plastic bag, and then discard it in the trash.

Fluorescent Lamps & Ballasts

Fluorescent lamps are used to light homes and offices. The fluorescent lamps may contain mercury. ballasts manufactured before 1978 may contain polychlorinated biphenyls (PCBs). Ballasts manufactured after 1979 may contain Di(2-ethylhexyl) phthalate (DHEP). These ingredients are considered toxic, corrosive, and poisonous.

Alternative Options

Alternatives to fluorescent lamps exist. These include:

- using halogen lights instead of fluorescent;
- purchasing fluorescent lamps which contain smaller amounts of mercury;
- purchasing compact fluorescent lamps which use less energy than incandescent lamps and last from 6 to 10 years; and
- not turning on all the lights in a room when they are not needed, in order to reduce the frequency of replacing the bulbs.

Recycling/Reuse Options

Fluorescent lamps and ballasts are recyclable. The mercury, glass, phosphor, and the metal components of fluorescent lights and the metal components of the ballasts are reclaimed for use in manufacturing other products. However, recycling lamps and ballasts may not be available option in your community. To determine if your community recycles lamps and ballasts, contact the local health department. The U.S. Environmental Protection Agency's Green Lights Program maintains a list of fluorescent lamp and ballast recyclers. Call (404) 562-9087, for more information.

Disposal

Under state law, if generated by household use, fluorescent light fixtures can be legally disposed of in a landfill. Wrap the fixtures in newspaper before disposing.

HOBBIES/RECREATION

Paint (Artists)

Some pigments in artist's oils and acrylics contain hazardous ingredients such as cadmium, chromium, copper, cobalt, titanium, and lead. Some pigments are considered flammable, toxic, and poisonous. These include: antimony white, barium yellow, burnt umber, cadmium yellows, oranges, and reds, chrome yellow, orange, and green, cobalt violet, emerald green or Paris green, flake white, mixed white, or lead white, lemon yellow, manganese blue and violet, molybdate orange, Naples yellow, thalo blues and greens, raw umber, Scheele's green, strontium yellow; vermilion, and zinc.

Alternative Options

There are alternatives available. Some products do not contain lead, chromium, cadmium or other toxic pigments. Water-based inks, paints, glues and cements are also available.

Recycling/Reuse Options

One option is to give the paint to someone who can use it (e.g., local schools, non-profit organizations, or amateur theater groups). These paints may be recycled with latex or oil-based paint. Contact the local health department for more information on recycling.

Disposal

If the paint cannot be used up, given away, or recycled, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact your local health department to see if a

HHW collection program is scheduled for your area. Under state law, solidified paints generated from household or private studio use can be legally disposed of in a landfill. To solidify, leave the cap off the container or slit the tube. Once solidified, the dried pigment can then be disposed of in a landfill. If the pigment cannot be solidified in this manner, then mix the paint with enough absorbent material (cat-box filler, sawdust) to absorb all free liquids and allow to harden.

Paint should not be poured down a septic tank, down outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Photography Chemicals

Chemicals used for developing photographs contain ingredients such as silver, boric acid, hydrochloric acid, sodium thiocyanate, or trichloroethane, Some photographic chemicals are considered corrosive, toxic, poisonous, and an eye, skin, and mucous membrane irritant.

Alternative Options

For black and white processing: Source reduction options include: using metal hydroquinone developers or the less toxic phenidone/hydroquinone developers; using replenishment solutions to reduce the use of chemicals; using only potassium ferricyanide reducers; and neutralizing with a stop bath, not acetic acid. Low-acid fixers are a less toxic alternative to high-sulphur dioxide rapid fixers.

For color processing: Source reduction options include: avoiding the use of phenylene diamine developers; eliminating the use of formaldehyde stabilizers; and using low solvent color processes.

Recycling/Reuse Options

The silver is recoverable and recyclable. Silver recovery systems or canisters are available to recapture the silver from the film that accumulates in developing solutions. Read the label or contact the manufacturer for information about recovering silver. In addition, some local photo developing shops may filter amateur photographer's solutions. Contact a local commercial developer for more information. Another option is to give the chemicals to someone who can use them (e.g., schools or photo clubs).

Disposal

If the photography chemicals cannot be used up, given away, or recycled, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact the

local health department to see if a HHW collection program is scheduled for your area.

If connected to a sewer system and the local wastewater treatment plant permits it, some photographic chemicals can be poured down an inside drain. Slowly pour small amounts of mixed and diluted black-and-white photography solution down an inside drain with a large amount of additional water. Contact the local wastewater treatment plant for more information. The empty, rinsed container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill. For color photography chemicals and solutions, contact the manufacturer for disposal instructions. The Eastman Kodak publication J-52 "Disposal of Small Volumes of Photographic Processing Solutions" (Eastman Kodak, 343 Street Rochester, New York 14650) may be helpful.

Photography chemicals should not be poured down a septic tank, down outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Gas Cylinders

There are a wide variety of compressed gas cylinders available for use by the homeowner and hobbyist. As an example, propane is widely used by households for grills and camp stoves, and is available in both refillable and non-refillable cylinders. Cylinders are one of the most difficult wastes for household users to dispose of (even if they are empty). Most solid waste disposal haulers and landfills will not pick these up at the curb for fear that they are under pressure and could potentially cause a toxic gas release, fire, or explosion in transit.

Alternative Options

Try to purchase a refillable tank whenever possible to cut down on waste and make recycling the cylinder easier. Take the gas cylinder to be refilled or exchanged for a full tank. Many local gas stations and convenience stores have cylinder exchange programs. Most Home Depots, and Wal-Marts also offer this service. Additionally, some hardware stores or gas distributors will refill your tank directly, rather than exchanging tanks.*(Note: the small camping size propane cylinders are not refillable.)*

Recycling/Reuse Options

If the tank cannot be exchanged or refilled, or the tank is rusted beyond use, then the tank can be recycled as scrap metal once all of the gas is released and the valve is removed. **NOTE: If the tank is not empty, do not attempt to remove the valve.** If the tank is empty and the valve can be removed, take the tank to a scrap metal recycling company. These can be located by looking in the Yellow Pages under "Scrap Metals". You must remove the valve prior to taking the tank to a scrap metal dealer. If the tank has gas in it and the valve cannot be removed (also applies to small cylinders) Amerigas (and other companies in the Yellow Pages under "Gas -Propane and Natural")

has a machine that removes valves and extracts gas from the tank before sending it to a scrap metal recycler. They normally do not deal with the small camping size propane cylinders because they are not refillable, but they will sometimes accept those, extract the gas and remove the valves with their machine, and then give them to a scrap metal recycler.

Disposal

There is no disposal option for gas cylinders; they should be recycled.

Pool Chemicals

Pool chemicals are used to maintain the proper pH of the water, disinfect, and prevent the growth of undesirable organisms in pool water. They may contain ingredients such as chlorine, bromine, muriatic acid, sodium or calcium hypochlorite, polyphosphonate, and copper-based algicide. Pool chemicals are considered corrosive, toxic, poisonous, reactive, and an eye, skin, or mucous membrane irritant.

Alternative Options

There are alternatives to using pool chemicals. These include using: an ozonator, a chlorine generator, or an ultraviolet light system for disinfecting

Recycling/Reuse Options

Pool chemicals are not recyclable. If at all possible, pool chemicals should be given to someone who can use them such as a neighbor, the local YMCA, school, or parks department

Disposal

If the pool chemicals cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact your local health department to see if a HHW collection program is scheduled for your area. Under state law, if generated by household use, solidified pool chemicals can be legally disposed of in a landfill. Cat box filler should not be used to solidify pool chemicals. If the chemicals are in a liquid form, contact your local sanitary sewer system to determine if they are acceptable on site to be used in their wastewater treatment plant operations.

Pool chemicals should not be poured down a septic tank, into outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW. Pool chemicals should not be mixed with petroleum products.

LAWN/GARDEN

Lawn Care Products (non-pesticide)

Lawn care products, such as fertilizers, are used to enhance the growth and performance of lawns, shrubs, and other plants. Many fertilizer products require special care for application and disposal. Potential hazards include immediate or long term poisoning from repeated exposure (via skin absorption, inhalation, swallowing) and harm to eyes and skin. Fertilizers often contain ammonium nitrate, ammonium phosphate, ammonium sulfate, and/or potassium chloride. Some ingredients are considered toxic, poisonous, reactive, explosive, or an eye or skin irritant. Fertilizers and pesticides may be packaged separately or in combinations. Read the label to determine if the fertilizer contains a pesticide. If the fertilizer contains a pesticide, refer to the Lawn Care Products in the Pesticide section of this guide.

Alternative Options

There are ways to maintain a healthy lawn and reduce fertilizer usage. These include:

- planting a grass species that is appropriate for your location;
- adjusting the pH of your lawn;
- avoiding cutting the lawn too short or with a dull blade;
- leaving the clippings on the lawn;
- using compost and natural soil amendments (which slowly release nutrients) such as fish meal, blood meal, and manure; and
- watering deeply rather than often.

Contact your local county extension office for more information on these methods. If you must buy a fertilizer, buy only as much as you need. Follow the product's directions closely to prevent over fertilizing. Give it to a person that might need it.

Reuse/Recycling Options

Fertilizers are still usable even if they are solidified. If you no longer have a use for the fertilizer, try to give it away to a neighbor, lawn care provider, garden club, or a civic or charitable organization. Fertilizer is not recyclable.

Disposal

If the fertilizer cannot be used up or given away, then read and follow the product's label for the

manufacturer's instructions on proper disposal. Under state law, if generated by household use, fertilizer can be legally disposed of in a landfill. Wrap the fertilizer container (empty or still containing fertilizer) in newspaper and in a heavy plastic bag, tape it closed, and place in the trash.

Fertilizers should not be poured down drains (inside and outside) or into a storm sewer. To safely store fertilizer, keep it in the original container and refer to the product's label for additional information.

Lawn Care Products (Herbicide/Insecticide)

Lawn care products include insecticides to control insects, herbicides to control weeds, and fungicides/bactericides used to control mildew, bacteria, and other microorganisms. Insecticides, herbicides, and fungicides may contain one or more of the following: glyphosate, captan, anilazine, chlorpyrifos, carbaryl, petroleum distillates, and pyrethrins. Some of the ingredients in lawn care products are considered toxic, poisonous, and an eye and skin irritant. Some fertilizers contain pesticides. To determine if you are dealing with a pesticide, read the container label or, contact the manufacturer. Pesticides are divided into four categories. Category I pesticides, which should only be used by professionals with special training, are highly toxic and have the signal word **"Danger"** on the label. These products may also contain the word **"Poison"** on the label or a skull and cross bones. Category II pesticides are moderately toxic and have the signal word **"Warning"** on the label. Category III pesticides are slightly toxic and have the signal word **"Caution"** on the label. Category IV pesticides are relatively non-toxic and have the signal word **"Caution"** on the label.

Alternative Options

Alternatives to hazardous lawn care products exist. One approach to reducing the use of pesticide is to use integrated pest management (IPM) practices. IPM uses physical (manually removing weeds), biological (using lady bugs or other natural predators), and chemical (using the least toxic pesticides) controls to maintain a healthy lawn. If garden plants and lawns are healthy and suitable for the location, then there are fewer weeds, diseases, and pests; and consequently, there is less need for pesticides. Also remember that it is not always necessary to remove every weed or insect from the lawn. In order to decrease the likelihood of infestation by pests, contact the local county extension office on how to keep plants healthy and for a list of disease-resistant plants that are suitable for your area. The county extension office will also have advice on the use of beneficial insects and environmentally benign pesticides like insecticidal soap. Other ways to reduce pesticide use and maintain a healthy lawn include:

- adjusting the pH of your lawn (contact your local extension office for instructions);
- avoiding cutting your lawn too short or using a dull blade;
- watering deeply rather than often;
- leave grass clippings and leaves on your lawn (once decomposed it is a fertilizer);
- weeding by hand or using a hoe; and
- using pest traps or baits.

If you must purchase and use a lawn care product,

- purchase and use only as much as needed;
- buy the least toxic product possible;
- make sure it is labeled for the area where it is going to be used;
- follow label directions closely (as they are your best source for safe use directions);
- make spot applications rather than broad applications;
- avoid storing products for long periods of time (since they may become less effective); and
- use up all of the product, but if you can not use the product up, try offering it to civic or charitable organizations that might have a use for it.).

By following these suggestions, you can minimize the amount of products that must be managed or the hazards associated with its use.

Reuse/Recycling Options

If you cannot use it all up, then give it away to a neighbor, or a civic or charitable organization. Do not use or give away products that are labeled **"Restricted Use"**or that have been banned. Only state-licensed applicators may apply **"Restricted Use"** insecticides. Contact the local county extension office or the EPA sponsored National Pesticide Telecommunications Network at 1-800-858-PEST for additional information on pesticides (including if the pesticide has been banned or is a restricted use pesticide). Lawn care products are not recyclable. Some pesticide containers may be recycled; contact the local health department to determine if your community has a program to recycle pesticide containers. To recycle, triple rinse the container using the rinse water as you would the pesticide.

Disposal

If the lawn care product cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal.

Empty insecticide container

If the container is empty, then triple rinse the container (using the rinse water as you would the product). The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Solidified lawn care products

Contact the local health department to see if a HHW collection program is planned for your area. Under state law, if generated by household use, solidified lawn care products can be legally disposed of in a landfill. Wrap the container in several layers of newspaper, tape securely, and place in the

trash.

Liquid lawn care products

Contact the local recycling coordinator to see if a HHW collection program is planned for your area. If generated by household use, solidified liquid lawn care products can be legally disposed of in a landfill. To solidify the liquid lawn care products, mix the lawn care products with enough absorbent material such as shredded newspaper or sawdust to absorb all free liquids. Place the solidified lawn care products in a bag or wrap in newspaper before disposing in a landfill. The empty container should be triple rinsed (using the rinse water as you would the product) and recycled, if possible.

Storage Tips

To safely store lawn care products, keep it in the original container with the label intact and refer to the product's label for additional information. S tore the products in an area inaccessible to children or pets.

HOME REPAIR

Paint (Latex)

Latex paints are the most common type of household paint. According to the National Paint and Coatings Association, latex paint constitutes 80% of the consumer market. Paint can be classified as latex if the label indicates that the paint can be cleaned up with soap and water. Latex paint may contain resins, ethylene glycol, esters, pigments (such as chromium) or (if old paint) lead. Some components of latex paint are considered toxic, flammable, poisonous, or a skin, eye, or mucous membrane irritant. Latex paint also may contain emulsifiers, thickeners, and defoamers which can be skin irritants. Latex paint manufactured before August 1990 may also contain mercury. Some older paints may contain high levels of lead, as well. Although the Consumer Products Safety Commission banned the use of lead in consumer paints in 1978, older homes, especially those built prior to 1978, may have lead-based paint on interior surfaces. According to EPA, lead-based paint dust and chips are dangerous if swallowed or inhaled, especially to small children and pregnant women. For more information about lead-based paints or a list of businesses that can test homes to determine if a home has surfaces painted with lead-based paint, contact the National Lead Information Clearinghouse at (800) 424-LEAD.

Alternative Options

Alternatives to latex paint include limestone-based white wash, which is made up of hydrated lime, water, and salt and may not contain heavy metal pigments and alkyd resins. However, some white wash products may contain a mold inhibitor or other ingredients which may contain a heavy metal. Read the label to determine the ingredients of the selected white wash.

To minimize the quantity of paint that must be managed:

- buy only as much paint as needed; and
- store paint cans, with tightly secured lids, upside down to prevent the paint from drying out.

Recycling/Reuse Options

If the latex paint cannot be used, then contact a local high school drama department, charity, or church to see if they accept paint. However, some restrictions apply (e.g., certain groups may only accept full cans of paint). Latex paint can be recycled or reblended. Reblending is a process in which leftover paint is mixed with additives to form a new color. This is not a widespread practice due to a number of factors, including the resulting less consistent of the paint, the muddy color, and concerns that the paint may be contaminated by chemicals, metals, or bacteria. Contact your local health department to see if a HHW collection program is scheduled for your area. The empty steel can is recyclable; however, not every community accepts paint cans in their recycling program.

Disposal

If the paint cannot be used up, given away, or recycled, then read and follow the product's label for the manufacturer's instructions on proper disposal.

Empty paint cans

The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Full cans of paint

Under state law, solidified latex paint can be legally disposed of in a landfill. To solidify full cans of latex paint, pour half the paint into a paper bag or box and mix with an absorbent material (i.e., cat-box filler, shredded newspaper, or sawdust) to absorb all free liquids and allow the mixture to harden. Place the box or bag with solidified latex paint in the landfill. Mix absorbent material with the remaining paint left in the can to absorb all free liquids and allow the mixture to harden. Then discard the can in the trash.

Partially full cans of paint

To solidify cans that are less than half full, pour enough absorbent material into the can to absorb all free liquids. When there is only a small amount, it is often quicker to pour the paint on a sheet of newspaper and let it dry. The can or sheet of newspaper containing the solidified paint may then be disposed of legally in a landfill. Small quantities of latex paint (i.e., paint in paint brushes) can be

poured slowly down an inside drain with a large amount of additional water. However, paint should not be poured down an inside drain if connected to a septic system.

Latex paint should not be poured down outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW. Dry and harden the latex paint and paint cans in a well ventilated area, away from children and pets.

Paint (Solvent-based)

Solvent-based, also called oil-based or alkyd paints contain organic solvents. Examples of this type of paint include enamels, varnishes, and lacquers. Paint is considered solvent-based if the label indicates that cleanup requires paint thinner or mineral spirits. Ingredients in solvent-based paint may include pigments, alkyl resin, ethylene glycol, kerosene, lead, mercury, methylene chloride, methylethyl ketone, mineral spirits, titanium dioxide, toluene, trichloroethane, or xylene. Some components of solvent-based paint are considered flammable, toxic, poisonous, and an irritant to skin, eyes, and mucous membranes. Some older paints, manufactured before 1978, may contain high levels of lead.

Alterative Options

Alternatives to solvent-based paint include:

- latex (water-based paint); and
- new, less volatile paints that contain less ethylene glycol and other petroleum-based solvents.

In order to minimize the amount of solvent-based paint that must be managed:

- buy only as much paint as needed, and
- store paint cans, with tightly secured lids, upside down to prevent the paint from drying out.

Recycling/Reuse Options

If the solvent-based paint cannot be used, then contact a local high school drama department, charity, or church to see if they accept paint. However, some restrictions apply (e.g., certain groups may only accept full cans of paint). Contact your local health department to see if there is a HHW collection program scheduled in your area. The empty steel can is recyclable; however, not every community accepts paint cans in their recycling program.

Disposal

If the paint cannot be used up, given away, or recycled, then read and follow the label for the

manufacturer's instructions on proper disposal.

Empty paint cans

The empty container should be recycled, if possible. If it cannot be recycled, then the empty can be disposed of in a landfill.

Full cans of paint

Under state law, if generated from household use, solidified solvent-based paint can be legally disposed of in a landfill. To solidify full cans of solvent-based paint, pour half the paint into a paper bag or box and mix with an absorbent material (i.e., cat-box filler, shredded newspaper, or sawdust) to absorb all free liquids and allow the mixture to harden. Place the box or bag with solidified solvent-based paint in the landfill. Mix absorbent material with the remaining paint left in the can to absorb all free liquids and allow the mixture to harden. Then discard the can in the landfill.

Partially full cans of paint

To solidify cans that are less than half full, pour enough absorbent material into the can to absorb all free liquids. The can of solidified paint may then be disposed of in a landfill.

Solvent-based paint should not be poured down drains (inside or outside), into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW. Solvent-based paint should be dried and allowed to harden in a well ventilated area, away from children and pets.

Paint Strippers

Paint strippers may be either solvent, water, or alkali-based. Solvent-based paint strippers may contain acetone, benzene, carbon tetrachloride, methanol, methylene chloride, phenols, and toluene. Water-based strippers may contain aliphatic petroleum distillates, dibasic esters (e.g.,dimethyl adipate ester), n-methyl-2-pyrrolidone (NMP), propanoic acid, and propylene carbonate. Caustic or alkali-based strippers may contain sodium hydroxide (lye). Some ingredients in solvent-based strippers are considered flammable, toxic, poisonous, and irritants. Water-based strippers may contain ingredients that are considered toxic or an irritant. Some ingredients in alkali-based products are considered corrosive, toxic, poisonous, and an irritant.

Alternative Options

Non-chemical alternatives to paint strippers include using:

- sandpaper;

- scraper;
- rasp;
- abrasive block; or a
- heat gun.

If you must use paint thinner, buy and use only as much as needed. Purchase water or alkali-based strippers or a paint stripper that does *not* contain *methylene chloride*. When choosing a product, read the label and consider purchasing a product that lists **"Caution**" over **"Warning"**, over **"Danger/Poison". Danger/Poison** denotes a more hazardous property than **Caution**. To avoid having to buy more paint stripper, store the container with the lid tightly secured.

Recycling/Reuse Options

If the paint stripper cannot be used, then try to give it to someone who can. Paint strippers are not recyclable. The empty, rinsed container may be recyclable. For more information on recycling, read the label or contact the manufacturer or the local health department.

Disposal

If the stripper cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact the local health department to see if a HHW collection program is scheduled in your area. Under state law, if generated by household use, solidified paint strippers can be legally disposed of in a landfill. To solidify the paint stripper, mix the paint stripper with enough absorbent material, such as sawdust, to absorb all free liquids. Then place the solidified material in the landfill. Paint strippers containing lye (sodium hydroxide) may be poured down the drain with a large amount of water. Before disposing of the stripper down the drain, check with the local wastewater treatment plant. The rinsed, empty container should be recycled if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Paint strippers should not be poured down a septic tank, into inside or outside drains, into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW. Never use gasoline, lighter fluid, or kerosene to strip paint.

Paint Thinner

Paint thinners are used to thin paint and clean brushes. Ingredients in paint thinners include acetone, methanol, naphthalene, toluene, turpentine, or xylene. Some ingredients in paint thinners are considered toxic, flammable, poisonous, and an eye and skin irritant.

Alternative Options

There are no less toxic alternatives to paint thinner to thin solvent-based paints. However, to avoid using paint thinners, use water-based or latex paints. To avoid having to buy more paint thinner, store the container with the lid tightly secured.

Recycling/Reuse Options

Paint thinner can be reused. Leave the used paint thinner in a closed container until the paint particles settle to the bottom. The clear liquid on top can then be poured into a clean container and reused. Attach the original label to the new container. A mesh screen placed on top of the new container can also be used to filter the contaminants as the thinner is poured into the new container. The empty steel can is recyclable; however, not every community accepts this type of can in their recycling program. Contact the local recycling center for information on recycling steel cans.

Disposal

If the paint thinner cannot be used up, given away or reused, then read and follow the product's label for the manufacturer's instructions on proper disposal. Contact your local health department to see if a HHW collection program is scheduled for your area. Under state law, if generated by household use, solidified paint thinner can be legally disposed of in a landfill. To absorb the paint thinner or the cloudy material on the bottom of the container that is left after the reuse process outlined above, mix the product with enough absorbent material (e.g., newspaper, sawdust) to absorb all free liquids or open the container in a well ventilated area and allow the contents to solidify. Place the material in a plastic bag and dispose of in a landfill. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in the trash.

Paint thinner should not be poured down a drain (inside or outside), into a storm sewer, or on the ground. Great care should be used when storing and handling paint thinner. Keep paint thinner away from an open flame and other heat sources. Store flammable liquids in a tightly closed, non-glass container. Store out of reach of children. Do not store flammable materials inside the home.

AUTOMOBILE

Gasoline

Gasoline is a petroleum-based hydrocarbon fuel used to power internal-combustion engines. Gasoline is flammable, an explosion hazard, toxic if inhaled, reactive with oxidizing materials, an irritant, and poisonous.

Alternative Options

Alternatives to gasoline-powered vehicles include vehicles powered by electricity, liquefied petroleum gas (LPG), propane, solar energy, natural gas or other fuels. In the case of a lawn mower, consider using a manual or electric powered lawn mower. Before storing a gas-powered vehicle for extended periods of time, add stabilizers to the gasoline. This will decrease the need to drain and replace the gasoline in the engine before restarting.

Recycling/Reuse Options

If the gasoline is stale or has a small amount of water in it, consider purchasing a gas rejuvenator product, such as STP, etc, which can be added to the gasoline. Small amounts of the gasoline can then be used in a lawnmower or other gas powered engine with caution. Another option to consider is to mix small amounts of the stale gas with large amounts of new gas at a ration of at least 7:1 parts new gas to old. The mixture can then be used in a lawnmower or other gas powered engine with caution.

Disposal

If the gasoline cannot be reused or given away (try mechanics and repair shops) or if the gas has a large amount of water in it, contact the local health department to see if a HHW collection program is scheduled for your area. However, not all HHW collection programs will accept gasoline. Other possibilities for disposal include marinas, marine repair shops, and automobile repair shops. As a last resort, let the gasoline evaporate, in a well ventilated area, away from pets, children, and heat sources

Gasoline should not be poured down drains (inside or outside), into a storm sewer, or on the ground. This can cause sewer explosions and/or can contaminate ground water. Gasoline should not be used for cleaning. Do not mix gasoline with kerosene. Great care should be used when storing and handling gasoline. Clearly label the gasoline container. Keep gasoline away from an open flame and other heat sources. Store flammable liquids in a tightly closed, non-glass container. Store out of reach of children. Gasoline can produce invisible explosive vapors that can ignite by a small spark. Do not store flammable materials inside the home.

Kerosene

Kerosene is distilled from petroleum or shale oil and is used as a fuel. Kerosene is flammable, poisonous, and may be toxic if inhaled or absorbed through the skin.

Alternative Options

None available.

Recycling/Reuse Options

If the kerosene is not contaminated, try to give the kerosene to someone who can use or burn it. If the kerosene is contaminated (or may possibly be contaminated) with other products, then ask a local mechanic or repair shop if the kerosene can be used to clean parts.

Disposal

If the kerosene cannot be used up or given away, contact your local health department to see if a HHW collection program is scheduled for your area. Like gasoline, some HHW programs will not accept kerosene. If a program is not available, or they will not accept it, then the kerosene can be mixed with an absorbent material or allow the kerosene to evaporate in a well-ventilated area away from children and pets. The container may be disposed of in the landfill.

Kerosene should not be poured down drains (outside and inside), into a storm sewer, or on the ground. Kerosene should not be mixed with gasoline. Great care should be used when handling kerosene. Clearly label the kerosene container. Keep kerosene away from an open flame. Store flammable liquids in a tightly closed, non-glass container and away from heat sources. Store out of reach of children. Kerosene can produce invisible explosive vapors that can ignite by a small spark. Do not store flammable materials inside the home.

Used Tires

Estimates of the number of "scrap" tires in the United States range from 750 million to 3 billion. An additional 270 million tires become scrap tires each year. Illegal or improper dumping and stock-piling of scrap tires pose serious health and environmental risks. Tire piles provide a breeding ground for rodents and mosquitoes, and are susceptible to fire from arson, lightning, and even spontaneous combustion. Tire pile fires are extremely polluting and difficult to extinguish.

Alternative Options

There are no alternatives to rubber tires for automobiles.

Recycling/Reuse Options

In Utah, people are encouraged to leave their used tires with the tire retailer where they were purchased. Tires can also be retreaded or " recapped", even radials, to extend the life of the tire. Other options which extend tire life include.

- rotate tires on a regular basis;
- maintain proper air pressures in tire;
- apply tire cleaner with UV protectorant;
- inspect tires for nails and other road debris;
- maintain proper tire alignment;
- maintain correct wheel balance;
- avoid excessive acceleration and braking; and
- do not replace tires before it is actually necessary (nearly 50% of tires are replaced after only half their potential life).

Tires can be returned to tire recyclers who chop, grind or powder them for use in a wide variety of products such as floor mats, adhesives, gaskets, shoe soles, and electrical insulators, or blended into asphalt for use in pavement binders and sealants, or as an aggregate substitute. Scrap tires also are used for fuel. Tires have a heating value of 12,000 to 15,000 Btu per pound.

Disposal

Usually, for a small fee, tires can be returned to tire retailers for disposal. In Utah, tires generated by a household may be legally disposed in most landfills, although some such as the Trans Jordan Landfill has banned them. However it is illegal to place more than four tires in the trash at any one time.(Landfills prefer not to accept tires, if possible, since they tend to work their way to the surface of the landfill no matter how deeply they are buried).

Automobile Batteries

An automobile (lead acid) battery provides an electrical current to the starter motor and the spark plugs. A battery contains an average of 18 to 22 pounds of recoverable lead, approximately 3 pounds of polypropylene casing, and one gallon of sulfuric acid. Some automobile battery components are considered corrosive, toxic, poisonous, and an eye irritant.

Alternative Options

There are no less toxic alternatives to lead-acid automobile batteries at this time.

Recycling/Reuse Options

In Utah, automobile batteries must be returned to retailers for recycling. Battery retailers are required by law to accept old lead acid batteries. Used batteries may be dropped off at battery wholesalers or retailers, secondary smelters, or a collection or materials processing facility that accepts batteries.

Disposal

Automobile batteries, under state law, may not be legally disposed of in landfills or incinerators. They must be recycled.

Antifreeze

Antifreeze protects the cooling system of an automobile from freezing and overheating, provides pump lubrication, and inhibits corrosion in the cooling system. Antifreeze may contain ethylene glycol, diethylene glycol, propylene glycol, or sodium nitrite. Antifreeze may also become contaminated with oil and hazardous metals such as copper, zinc and lead. Ingredients or contaminants in antifreeze are considered toxic, reactive, flammable, poisonous, or an eye, skin, and mucous membrane irritant.

Alternative Options

An alternative to ethylene-glycol based antifreeze is to use antifreeze made with propylene glycol. To minimize the amount of antifreeze that must be managed or the hazards associated with its use:

- buy and use only the quantity needed;
- capture the antifreeze when the coolant or hoses are changed, and reuse or recycle it;
- watch for and repair any leaks;
- store antifreeze in tightly closed containers to prevent it from being spilled or contaminated by other materials; and
- use antifreeze that is designed to last for four years or 50,000 to 60,000 miles (most antifreezes need to be replaced every two years).

Recycling/Reuse Options

Antifreeze can be recycled. Used antifreeze still protects against freezing and boil over; however, the corrosion inhibitors may be depleted during use and should be replaced in the recycling process. To collect antifreeze for recycling, place the antifreeze in a clean, closed container and take it to a site that accepts used antifreeze for recycling. To close the recycling loop, purchase recycled antifreeze, when possible.

Disposal

If the antifreeze cannot be reused, given away, or recycled, then read and follow the product's label for the manufacturer's instructions on proper disposal. If recycling is not feasible, then antifreeze may be disposed of in one of two ways. If the local wastewater treatment plant permits it, antifreeze may be poured down an inside drain, flushing with plenty of water. Contact the local wastewater treatment plant for information. In addition, under state law, if generated by

household use, solidified antifreeze can be legally disposed of in a landfill. To solidify the antifreeze, mix the antifreeze with enough absorbent material, such as cat-box filler, to absorb all free liquids. Place the solidified antifreeze in a bag or wrap in newspaper before disposing in the trash. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in the trash.

Antifreeze should not be poured down septic tanks, outside drains, in the storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW. Antifreeze can also harm pets if ingested.

The following businesses listed below will accept used antifreeze.

Pulsar Energy
977 So. 700 W.
Salt Lake City, Ut.

Layton Lube and Service
2056 N. Hillfield Rd
Layton, Ut.

AA Auto Electric
757 N. 100 E.
Cedar City, Ut.

Layton Lube Two
1182 N. Main St.
Layton, Ut.

Lube It Express
655 So. Main St.
Moab, Ut.

Day Trip Transporters
625 So. Main St.
Heber City, Ut.

Pierce Oil Company
332 West, Railroad Ave.
Price, Ut.

Advanced Auto Repair
533 East Central St.
Montecello, Ut.

Logan Landfill
950 W. 600 N.
Logan, Ut.

Keith's Machine Shop
694 E. Midvalley Rd
Enoch, Ut.

Tri-Valley Inc
110 Bluff St.
St. George, Ut.

Trans-Jordan Landfill
10873 So. 7200
West Jordan, Ut.

Jiffy Lube
562 E. State
American Fork, Ut.

Jiffy Lube
116 So. 850 East
Lehi, Ut.

Indian Oil
1155 W. 135 So.
Lindon, Ut.

Orem City Public Works
955 N. 900 W.
Orem, Ut.

Jiffy Lube
91 N. State
Orem, Ut.

Jiffy Lube
809 So. State
Orem, Ut.

Jiffy Lube
1575 No. 200 W.
Provo, Ut.

Provo City Garage
420 E. 1350 So.
Provo, Ut.

Wayne George Antifreeze
P.0. Box 96
Monroe, Utah. 1-800-392-7333.

Freon (Chlorofluorocarbons)

Chlorofluorocarbons (CFCs) are used in aerosol sprays, blowing agents, packing materials, solvents and refrigerants. CFCs are not flammable or toxic unless at high concentrations. They are, however, linked to stratospheric ozone depletion. Ozone in the stratosphere filters ultraviolet radiation from the sun. Overexposure to ultraviolet radiation is associated with skin cancer, cataracts, and weakened immune systems. Ultraviolet radiation breaks down the CFCs into chlorine atoms which can combine with ozone. The process is repeated until the chlorine atom reacts with another chemical. An international treaty, the Montreal Protocol of 1987, calls for the reduction in the use of substances that deplete the ozone layer. Title VI of the Federal Clean Air Act Amendments of 1990 implements the treaty's goals and sets forth a time table for the eventual banning of production of certain ozone depleting substances in the United States. As of January 1, 1996, CFCs are no longer being produced in the United States for use in air conditioners or refrigeration. CFCs can still be used, as long as the supplies are available. Additionally, air conditioning units must be serviced by certified technicians, and these technicians are required to capture and recycle the refrigerant. Freon™ is a trademark name for CFCs (e.g. CFC-12) and HCFCs manufactured by Dupont
.

Alternative Options

In order to prevent the loss of CFCs to the atmosphere, air conditioners (home and car) should be checked for leaks annually; any leaks should be repaired. There are new alternative refrigerants available. The new refrigerants are evaluated by the EPA under its Significant New Alternatives Policy (SNAP) to determine if they pose a risk to human health or to the environment. Automakers are producing new vehicles with a non-ozone depleting refrigerant called R-134a. You may also modify your air conditioning systems to use one of the EPA approved substitute refrigerants. EPA estimates that these modifications may cost between $100 to $800, depending upon the make, model and year of the vehicle. For more information on new refrigerants or ozone depletion, contact the EPA Stratospheric Ozone Hotline at 1(800) 296-1996.

Recycling/Reuse Options

Freon is recyclable. Contact a local automobile service business or a home cooling service business with certified technicians for information. Or, contact the local health department to see if a HHW collection program is scheduled for your area.

Disposal

It is illegal to vent CFCs to the atmosphere. CFCs including Freon must be recovered and recycled..
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Brake Fluid

Brake fluid is an alcohol-based hydraulic fluid used to transmit braking pressure to the brake pads. Brake fluid may contain glycol ethers. Used brake fluid may also contain benzene, lead, and other heavy metals. Some ingredients of brake fluid are considered flammable, poisonous, a skin and eye irritant, or toxic.

Alternative Options

To minimize the amount of brake fluid that must be managed or the hazards associated with its use:

- keep the vehicle properly maintained;
- change the brake fluid twice a year or when dirty (brake fluid is golden in color; dirty brake fluid is brown or black.);
- watch for leaks in the brake system and repair any leaks;
- buy only as much brake fluid as needed; and
- store any unused brake fluid in tightly capped containers to prevent it from being spilled or contaminated by other materials.

Recycling/Reuse Options

Brake fluid is recyclable. In order to collect brake fluid for recycling, place it in a clean, leak-proof container and contact the local health department to see if a collection program is scheduled for your area. If a collection is not available, contact service stations or auto parts stores to see if they will accept brake fluid for recycling. To close the recycling loop, purchase recycled brake fluid.

Disposal

If the brake fluid cannot be reused, given away, or recycled, then read and follow the product's label for the manufacturer's instructions on proper disposal. If recycling is not feasible, under state law, if generated by household use, solidified brake fluid can be legally disposed of in a landfill.. To solidify the brake fluid, mix the brake fluid with enough absorbent material such as cat-box filler to absorb all free liquids. Place the solidified brake fluid in a bag or wrap in newspaper before disposing in the trash. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in the trash.

Brake fluid should not be poured down drains (inside and outside), in the storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Motor Oil

Motor oil lubricates the engine's moving parts and sometimes helps cool the engine. Used motor oil may contain chromium, lead, petroleum hydrocarbons, aromatic hydrocarbons, or zinc. Used oil may also be contaminated with other hazardous substances such as gasoline and other solvents and toxic chemicals such as antifreeze. Some components of used motor oil are considered flammable, toxic, poisonous, and a skin irritant.

Alternative Options

There are no known less toxic alternatives. Synthetic oils are available that do not have to be changed as often as ordinary oils. To minimize the amount of motor oil that must be managed or the hazards associated with its use:

- keep the vehicle properly maintained;
- watch for and repair any oil leaks;
- buy only as much oil as needed;
- avoid spills while pouring or draining; and
- store any unused motor oil in labeled tightly closed containers to prevent it from being spilled or contaminated with other materials.

Recycling/Reuse Options

Motor oil can be recycled or re-refined, a process where it is made into clean lubricant oil or motor oil. Used motor oil can also be burned as fuel; it is sometimes used as fuel at cement kilns and industrial furnaces where it is used as a substitute for fuel oil. To recycle motor oil, place it in a clean, leak-proof container and take it to a used oil collection center. Call **1-800-458-0145** or your local health department for information on the location of collection sites that accept used oil at no charge. If you would like more information about Utah's used oil recycling program, please click here. To close the recycling loop, purchase recycled / re-refined motor oil.

Disposal

The best management option is to recycle motor oil.

Motor oil should not be poured down drains (inside or outside), into a storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW. Motor oil should not be burned in wood stoves or fireplaces, because it produces toxic vapors.

Oil Filters

Oil filters are used to filter out any debris and sludge that the oil picks up as it circulates through the engine. Used filters contain motor oil and other impurities. Some of the oil components contained in the filter are considered ignitable and toxic.

Alternative Options

There are no non-toxic alternatives to oil filters. To minimize the need to change oil filters:

- keep the vehicle properly maintained;
- use one of the more efficient filters now on the market that can last up to one year or 12,500 miles, instead of the 6,000 to 10,000 miles for conventional filters;
- use a washable, reusable filter; and
- install a by-pass filter that is changed every 25,000 miles.

While these suggestions may minimize the need to change oil filters, they may not be practical or readily available options.

Recycling/Reuse Options

Oil filters are recyclable. There are currently 5 states which ban oil filters from landfills. In Utah you are required to drain {preferably, hot drain) the filter of oil before recycling or discarding it in the trash. The oil contained in the filter and steel components are recoverable. To prepare the oil filter for recycling, remove the filter from a warm engine, puncture the dome of the filter and drain it immediately into a clean container, using the **gravity draining** method as described below. While the remaining three methods described are acceptable methods of removing the oil from the filter, they are usually only available to a consumer who takes his car to a business that changes automobile oil.

The four methods for removing oil from oil filters are:

- **Gravity Draining**: Place the filter with the gasket side down in a drain pan. If the filter has an anti-drain valve, then the "dome end" of the filter should be punctured with a screwdriver. The filter should be allowed to drain for twelve to twenty-four hours.
- **Crushing**: A mechanical, pneumatic, or hydraulic device is used to crush the filter. This squeezes out the used oil and compacts the filter.
- **Disassembly**: A mechanical device separates the filter into its different parts. This allows most of the used oil to drain from the filter.
- **Air Pressure**: The filter is placed in a machine that uses air pressure to force the used oil out of the filter.

The leak-proof container used to capture the used oil should then be tightly closed and taken to a location that accepts used oil. Crushed or dismantled used filters should be stored in a leak-proof container. Contact the local health department, or local gas stations for the location of sites that accept used oil filters and used oil for recycling. See the section on motor oil for information on recycling the oil collected from the draining process.

Disposal

If the oil filter cannot be recycled, then read and follow the product's label for the manufacturer's instructions on proper disposal. In Utah, state law permits punctured, gravity-drained oil filters to be legally disposed of in your trash can or dumpster.

Solvents

Solvents are liquids used to clean parts of the car and for a variety of other purposes. Chlorinated 8640 hydrocarbon solvents are typically used to clean brake pads, rotors, drums, calipers, other brake parts, and CV joints. Carburetor, fuel injector, and choke cleaners contain detergents and chlorinated solvents that strip away contaminants. Engine degreasers are aerosol products containing surfactants and solvents that strip grease and clean metal. Some solvents may contain 2-butoxyl-1-ethanol, m-pyrol, aromatic naphtha, xylene, mineral spirits, n-propanol, naphthalene, 1,1,1-trichloroethane and petroleum distillates. Some components of solvents are considered flammable, toxic, poisonous, and an eye, skin, or mucous membrane irritant.

Alternative Options

Less toxic alternatives are available. These include: non-chlorinated degreasers and cleansers, products that contain citrus oil, and water-based cleaners that contain detergents and/or emulsifiers. When choosing a product, read the label and consider purchasing a product that lists **"Cautions"** over **"Warnings"**, over **"Danger/Poison". Danger/Poison** denotes a more hazardous property than **Cautions.**

Recycling/Reuse Options

Solvents are recyclable; however, recycling may not be economically feasible for homeowners due to the limited quantities generated. Contact the local health department to see if a HHW collection program is scheduled for your area.

Disposal

If the solvent cannot be used up or given away, then read and follow the product's label for the manufacturer's instructions on proper disposal. If recycling is not feasible, under state law, solidified solvents, if generated by household use, can be legally disposed of in a landfill. To solidify solvents, mix the solvent with enough absorbent material such as cat-box filler to absorb all free liquids and allow the mixture to harden. Place the solidified solvent in a bag or wrap in newspaper before disposing in a landfill. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in a landfill.

Solvents should *not* be poured down drains (inside and outside), in the storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

Transmission Fluid

Transmission fluid is used to lubricate gears, bearings, and shafts within automatic transmissions and provides for heat dissipation. It also carries hydraulic pressure to cause transmission engagement and gear shifts. Transmission fluid contains hydrocarbons. Some of the components of transmission fluid are considered flammable, an irritant, and toxic.

Alternative Options

There are no known less toxic alternatives. There are ways, however, to minimize the use of and the hazards associated with transmission fluid. These include:

- keeping the vehicle properly maintained;
- watching for and repairing any leaks;
- avoiding spills while pouring or draining;
- buying only as much transmission fluid as needed;
- storing any unused transmission fluid in tightly capped containers so as to prevent it from being spilled or contaminated with other materials; and
- purchasing, if possible, recycled transmission fluid.

Recycling/Reuse Options

Transmission fluid is recyclable. Most recycling sites for used motor oil will accept transmission fluid. To recycle transmission fluid, place it in a clean, leak-proof container, and contact the used motor oil recycling sites (see used motor oil section) to see if they will also accept transmission fluid for recycling.

Disposal

If the transmission fluid cannot be reused, given away, or recycled, then read and follow the product's label for the manufacturer's instructions on proper disposal. If recycling is not feasible, under state law, solidified transmission fluid, if generated by household use, can be legally disposed of in a landfill. To solidify transmission fluid, mix the transmission fluid with enough absorbent material such as cat-box filler to absorb all free liquids. Place the solidified solvent in a bag or wrap in newspaper before disposing in the trash. The empty container should be recycled, if possible. If it cannot be recycled, then the empty container can be disposed of in the trash.

Transmission fluid should not be poured down drains (inside or outside), in the storm sewer, or on the ground. This can cause ground water contamination and/or operational problems with the septic system or POTW.

MISCELLANEOUS

Explosives

Explosive waste includes ammunition, fireworks, picric acid, ether and concentrated hydrogen peroxide. In addition to being explosive, some of these products may be toxic, poisonous, corrosive, or an irritant.

Alternative Options

None available.

Recycling/Reuse Options

Explosives are not recyclable.

Disposal

Contact the local fire or police station, bomb squad, or sheriff's office to see if the explosive material can be brought to them for disposal, or if they will pick it up.

Computer Equipment

Roughly 14 to 20 million computers are retired each year in the United States and it is estimated that 150 million will be disposed of by 2005. Of these, nearly 75 percent are simply stockpiled, while 10 to 15 percent are reused or recycled and up to 15 percent are disposed of in landfills. There are three primary parts that make up a personal computer. The computer or central processing unit (CPU). The monitor or cathode ray tube (CRT) and the keyboard. Of the three, the CRT is the biggest problem in disposing in landfills because of the lead associated with these tubes. The average 15 inch computer monitor contains over 1.5 pounds of lead.

Alternative Options

There are no alternatives for home computers.

Disposal

Disposing of a hazardous waste such as lead containing materials in landfills is illegal in many states, regardless whether it is generated by a household or a business. However, in Utah**,** if generated by household use, it can be legally disposed of in a landfill. There are certified recyclers of computers, however, if it is not practical or a certified recycler cannot be found in your local area for your old computer, you can contact the local Goodwill, Salvation Army, or other organization where you can donate the computer for resale or refurbishing. You might also contact school districts near you to see if they can use your computer.

LIST OF CITY/COUNTY HOUSEHOLD HAZARDOUS WASTE (HHW) PROGRAMS

Bountiful City

For Bountiful residents only.
Street Department
950 South 200 West
Bountiful, Ut.

HHW Collected once a year, usually in October.
Contact Merle Schultz, Bountiful City Streets Dept. for time and date.
1-801-298-6175.

Salt Lake County

For Salt Lake, Davis and Utah Counties.

Salt Lake County Health Department. www.slvhealth.org. HHW information website.
Salt Lake Valley Household Hazardous Waste Facility
6030 West l300 South
Salt Lake City, Ut.
Open Monday thru Saturday from 8 AM to 4 PM.
Contact Bryce Larsen, Salt Lake County Health Dept.
1-801-313-6697.

Trans-Jordan Landfill
10873 South 7200 West

West Jordan, Ut.

Open Monday thru Saturday from 8 AM to 4 PM.

2002 Household Hazardous Waste Collection Days in Salt Lake County

None Scheduled at this time.

Tooele County

For Tooele County Residents only.
Tooele County Health Dept.
151 North Main Street
Tooele, Ut.

Household Hazardous Waste is collected once a year, usually in the fall.
Contact Vicki Rolfe, Tooele County Health Dept., for time and date.
1-801-843-2300

Cache County

For Cache County Residents only. Call for information and dates.
Logan Service Center
l950 West 600 North
Logan, Ut.

HHW Collected two days a year, usually in April and September.
Contact William Lusk, Logan Service Center for time and date.1-801-750-9951.

Davis and Morgan Counties

For Davis and Morgan Residents only. Call for information and dates.
Wasatch Energy Systems
650 East Highway 193
Layton, Ut.

HHW that is flammable is acceptable in small quantities (5 gallons or less). **EXCEPT GASOLINE**.
For further details, call 1-801-771-3032.

Weber County

For Weber Residents only. Call for information and dates.
HHW Collected every third Saturday April through September. 867 W. Wilson Lane. 9:00 to 1:00 PM. Contact Brian Cowan, Weber County Health Dept. 1-801-399-8169.